FARM FACTS

Crop Planning Guide 2001

Alternative Crops

Pulses, Oilseeds, Spices & Other Crops

Produced by Saskatchewan Agriculture and Food

Alternative crops are now produced on over 5 million acres each year in Saskatchewan. Before growing these crops producers should evaluate the costs and the risks associated with alternative crops before deciding what to plant in 2001.

The crop budgets in this publication provide an estimate of costs based on recommended production practices for each crop. For some crops, the best production methods are not firmly established and cost estimates are based on reasonable estimates of production systems.

Large variations in yields and costs exist among producers depending on location, farm size, age of machinery, etc. **The budgets presented here should be used as guidelines only.** They do not represent actual costs and returns on your farm. Your past farm records adjusted for expected changes in 2001 can be used to develop your own budgeting figures. Enter estimates for your own farm on the enclosed worksheet.

The cropping budgets are based on either re-cropping or fallow cropping depending on the prevalent cropping practices or agronomic recommendations. Producers seeding a crop in a different rotation should adjust the fallow costs accordingly.

The figures provide an estimate of variable expenses, investment and depreciation on buildings and machinery and a land cost. The yields are based on averages provided by the Statistics Branch of Saskatchewan Agriculture and Food. For crops with insufficient yield history, yields were based on Saskatchewan Agriculture and Food Special Crop surveys and data from the Crop Development Center, Saskatoon, Saskatchewan. Crop prices are based on historical prices adjusted for anticipated supply and demand.

Short-term decisions among various crops can be made on the basis of returns over variable expenses. Long-term decisions must include all costs, including fixed costs for machinery, buildings and land. The decision to include a new crop in your crop rotation may be longer-term if changes to machinery and buildings requirements are necessary for the new crop.

Producers considering replacing some of their traditional crops with new crops should give special consideration to the higher risk associated with alternative crops. Many alternative crops have higher profit potential than traditional crops but also have greater variations in yield, grade and price. Some require an extended growing season, or have particular climate requirements that could produce very low yields many years. Markets for some of these crops are small and variable. Use the following methods to reduce risk:

- Start with a small acreage until production methods have been learned.
- Contract for price and delivery if markets are uncertain.
- Remain diversified by limiting the acreage of a new crop to a reasonable portion of your total acreage.
- Practice the best weed control available.
- Insure against yield loss with crop insurance if it is available.

Revised December 2000.

For more information on any of these crops contact your Extension Agrologist or the Sustainable Production Branch of Saskatchewan Agriculture & Food at (306) 787-4660.

This information is on Saskatchewan Agriculture and Food's website along with most other publications that are produced by Saskatchewan Agriculture and Food.

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PULSE, OILSEED AND SPICE CROP PRODUCTION COSTS ($per acre) FOR SASKATCHEWAN 2001

	PULSE CROPS					
CROP	#1 Large Green Lentil	#1 Small Green Lentil	#1 Red Lentil	#1 Green Peas	#1 Yellow Peas	Feed Peas
Type of Rotation	Re-crop	Re-crop	Re-crop	Re-crop	Re-crop	Re-crop
Rotation Years Required to Grow This Crop	1	1	1	1	1	1
Soil Zone	DBROWN	DBROWN	DBROWN	BLACK	BLACK	BLACK
REVENUE PER ACRE						
Estimated Yield (bu/ac,lb/ac) (A)	1194.00	1242.00	1197.00	29.4	31.6	27.9
Est. On Farm Market Price/bus,lb (B)	**$0.16**	**$0.15**	**$0.15**	**$3.25**	**$3.75**	**$3.00**
Estimated Gross Revenue/ac (AxB) (C)	**191.04**	**186.30**	**179.55**	**95.55**	**118.50**	**83.70**
EXPENSES PER ACRE						
Variable Expenses/acre						
Seed	18.00	9.00	9.00	16.20	16.20	14.40
Fertilizer*** - Nitrogen	**1.80**	**1.80**	**1.80**	**1.80**	**1.80**	**1.80**
- Phosphorus	6.50	6.50	6.50	6.50	6.50	6.50
- Sulfur & Other	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Chemical**** - Herbicides/Fungicides	30.17	30.17	30.17	18.92	18.92	17.19
- Insecticides	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
- Seed Treatment	1.80	0.90	0.90	3.60	3.60	3.60
Machinery Operating - Fuel	**11.00**	**11.00**	**11.00**	**11.00**	**11.00**	**11.00**
- Repair	10.50	10.50	10.50	11.40	11.40	11.40
Custom Work & Hired Labour	**3.00**	**3.00**	**3.00**	**3.00**	**3.00**	**3.00**
Crop Insurance Premium	6.44	6.44	6.44	2.51	2.51	2.51
Utilities & Miscellaneous	**3.80**	**3.80**	**3.80**	**3.86**	**3.86**	**3.86**
Interest on Variable Expenses	3.49	3.12	3.12	2.95	2.95	2.82
Total Variable Expenses (D)	**86.50**	**86.23**	**86.23**	**81.75**	**81.75**	**78.68**
Other Expenses/acre						
Building Repair	1.20	1.20	1.20	1.60	1.60	1.60
Property Taxes	**4.51**	**4.51**	**4.51**	**5.03**	**5.03**	**5.03**
Insurance & Licences	1.72	1.72	1.72	2.04	2.04	2.04
Machinery Depreciation	**17.50**	**17.50**	**17.50**	**19.00**	**19.00**	**19.00**
Building Depreciation	1.20	1.20	1.20	1.60	1.60	1.60
Machinery Investment	**13.13**	**13.13**	**13.13**	**14.25**	**14.25**	**14.25**
Building Investment	1.80	1.80	1.80	2.40	2.40	2.40
Land Investment	**15.30**	**15.30**	**15.30**	**17.33**	**17.33**	**17.33**
Total Other Expenses (E)	56.36	56.36	56.36	63.25	63.25	63.25
Labour and Management***** (F)						
Total Expenses (D+E+F) (G)	**152.86**	**142.59**	**142.59**	**145.00**	**145.00**	**141.33**
Summerfallow Cost (H)	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Total Rotation Expense (G+H)=(I)	**152.86**	**142.59**	**142.59**	**145.00**	**145.00**	**141.33**
RETURNS PER ACRE						
Return Over Variable Expenses (C-D)	**94.54**	**100.07**	**93.32**	**13.80**	**36.75**	**5.62**
Return Over Total Rotation Expenses (C-I)	**38.18**	**43.71**	**36.96**	**-49.45**	**-26.50**	**-57.63**
BREAK-EVEN YIELD (lbs or bus per acre)						
To Cover Variable Expenses	**603**	**575**	**575**	**25**	**22**	**26**
To Cover Total Rotation Expenses	**968**	**951**	**951**	**45**	**39**	**47**
BREAK-EVEN PRICE (per lb or bus)						
To Cover Variable Expenses	**0.08**	**0.07**	**0.07**	**2.78**	**2.59**	**2.80**
To Cover Total Rotation Expenses	**0.13**	**0.11**	**0.12**	**4.93**	**4.59**	**5.07**

*** Yield and costs are for Dryland Pinto Beans only.**

****Expenses shown are for two years (year 1 and 2) and revenue is from 2 years (year 2 and 3) of Caraway seed production. Average return per year over total expenses is $335.80 divided by 2 equals $167.90 per year. The expenses associated with the cover crop in year 1 are covered by the revenue from the cover crop.**

***** Fertilizer prices as of December 1/00. Rising natural gas prices over the course of the winter will equate into higher fertilizer prices by spring especially nitrogen fertilizer. (Producers should take this into account when using these guides.)**

****** Only registered chemicals are included.**

******* These budgets do not include an estimate for owner/operator labour and management. This value varies greatly and depends on both the farm manager's needs as well as the ability of the farm to generate income. Farm managers need to determine their own actual labour and management costs and add it to total expenses.**

				OILSEED CROPS					
Pinto Bean*	#1 Desi Chickpea	#1-8mm Kabuli C'pea	Fababean (Feed)	Early,Short Sunflower	Standard Sunflower	Yellow Mustard	Oriental Mustard	Brown Mustard	Safflower
Fallow	Re-crop	Re-crop	Re-crop	Re-crop	Re-crop	Re-crop	Re-crop	Re-crop	Fallow
2	1	1	1	1	1	1	1	1	2
DBROWN	BROWN	BROWN	BLACK	DBROWN	DBROWN	BROWN	BROWN	BROWN	BROWN
1000.00	1400.00	1100.00	1328.00	901.00	987.00	680.00	815.00	765.00	658.00
$0.22	$0.12	$0.30	$0.10	$0.10	$0.11	$0.15	$0.12	$0.12	$0.15
220.00	168.00	330.00	132.80	90.10	108.57	102.00	97.80	91.80	98.70
40.00	23.75	79.80	39.60	16.80	27.50	2.70	1.92	2.40	9.00
15.00	1.80	1.80	1.80	15.00	15.00	13.50	13.50	13.50	6.00
6.50	6.50	6.50	6.50	6.50	6.50	5.20	5.20	5.20	5.20
0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00	2.00	0.00
62.35	19.39	23.62	37.20	23.46	23.46	14.18	14.18	14.18	15.64
0.00	0.00	0.00	0.00	0.51	0.51	0.49	0.49	0.49	0.00
1.58	1.90	9.80	7.20	0.18	0.13	5.40	4.32	5.40	0.60
9.50	11.00	11.00	11.00	11.00	11.00	10.50	10.50	10.50	8.50
10.50	9.00	9.00	9.60	9.42	9.90	6.00	6.00	6.00	7.80
3.00	3.00	3.00	3.00	4.00	4.00	3.50	3.50	3.50	3.00
0.00	7.65	9.69	3.22	1.75	2.12	2.55	2.55	2.41	0.00
3.80	2.57	2.57	3.86	3.80	3.80	2.57	2.57	2.57	2.57
5.71	3.25	5.88	4.61	3.47	3.90	2.57	2.50	2.56	2.19
157.94	89.81	163.66	127.59	95.87	107.81	71.16	69.23	70.70	60.49
1.20	0.90	0.90	1.60	1.20	1.20	0.90	0.90	0.90	0.90
4.51	3.97	3.97	5.03	4.51	4.51	3.97	3.97	3.97	3.97
1.72	1.12	1.12	2.04	1.72	1.72	1.12	1.12	1.12	1.12
17.50	15.00	15.00	16.00	15.70	16.50	12.00	12.00	12.00	13.00
1.20	0.90	0.90	1.60	1.20	1.20	0.90	0.90	0.90	0.90
13.13	11.25	11.25	12.00	11.78	12.38	9.00	9.00	9.00	9.75
1.80	1.35	1.35	2.40	1.80	1.80	1.35	1.35	1.35	1.35
15.30	13.95	13.95	17.33	15.30	15.30	13.95	13.95	13.95	13.95
56.36	48.44	48.44	58.00	53.21	54.61	43.19	43.19	43.19	44.94
214.29	138.25	211.10	185.59	149.08	162.41	114.35	112.42	113.89	105.43
51.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	43.08
265.97	138.25	211.10	185.59	149.08	162.41	114.35	112.42	113.89	148.51
62.06	78.19	167.34	5.21	-5.77	0.76	30.84	28.57	21.10	38.21
-45.97	29.75	118.90	-52.79	-58.98	-53.84	-12.35	-14.62	-22.09	-49.81
718	748	542	1276	959	980	474	577	589	403
1269	1152	704	1856	1491	1476	782	937	949	950
0.16	0.06	0.15	0.10	0.11	0.11	0.10	0.08	0.09	0.09
0.27	0.10	0.19	0.14	0.17	0.16	0.17	0.14	0.15	0.23

PULSE, OILSEED AND SPICE CROP PRODUCTION COSTS ($per acre) FOR SASKATCHEWAN 2001

	PULSE CROPS					
CROP	#1 Large Green Lentil	#1 Small Green Lentil	#1 Red Lentil	#1 Green Peas	#1 Yellow Peas	Feed Peas
Type of Rotation	Re-crop	Re-crop	Re-crop	Re-crop	Re-crop	Re-crop
Rotation Years Required to Grow This Crop	1	1	1	1	1	1
Soil Zone	DBROWN	DBROWN	DBROWN	BLACK	BLACK	BLACK
REVENUE PER ACRE						
Estimated Yield (bu/ac,lb/ac) (A)	1194.00	1242.00	1197.00	29.4	31.6	27.9
Est. On Farm Market Price/bus,lb (B)	**$0.16**	**$0.15**	**$0.15**	**$3.25**	**$3.75**	**$3.00**
Estimated Gross Revenue/ac (AxB) (C)	**191.04**	**186.30**	**179.55**	**95.55**	**118.50**	**83.70**
EXPENSES PER ACRE						
Variable Expenses/acre						
Seed	18.00	9.00	9.00	16.20	16.20	14.40
Fertilizer*** - Nitrogen	**1.80**	**1.80**	**1.80**	**1.80**	**1.80**	**1.80**
- Phosphorus	6.50	6.50	6.50	6.50	6.50	6.50
- Sulfur & Other	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Chemical**** - Herbicides/Fungicides	30.17	30.17	30.17	18.92	18.92	17.19
- Insecticides	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
- Seed Treatment	1.80	0.90	0.90	3.60	3.60	3.60
Machinery Operating - Fuel	**11.00**	**11.00**	**11.00**	**11.00**	**11.00**	**11.00**
- Repair	10.50	10.50	10.50	11.40	11.40	11.40
Custom Work & Hired Labour	**3.00**	**3.00**	**3.00**	**3.00**	**3.00**	**3.00**
Crop Insurance Premium	6.44	6.44	6.44	2.51	2.51	2.51
Utilities & Miscellaneous	**3.80**	**3.80**	**3.80**	**3.86**	**3.86**	**3.86**
Interest on Variable Expenses	3.49	3.12	3.12	2.95	2.95	2.82
Total Variable Expenses (D)	**96.50**	**86.23**	**86.23**	**81.75**	**81.75**	**78.08**
Other Expenses/acre						
Building Repair	1.20	1.20	1.20	1.60	1.60	1.60
Property Taxes	**4.51**	**4.51**	**4.51**	**5.03**	**5.03**	**5.03**
Insurance & Licences	1.72	1.72	1.72	2.04	2.04	2.04
Machinery Depreciation	**17.50**	**17.50**	**17.50**	**19.00**	**19.00**	**19.00**
Building Depreciation	1.20	1.20	1.20	1.60	1.60	1.60
Machinery Investment	**13.13**	**13.13**	**13.13**	**14.25**	**14.25**	**14.25**
Building Investment	1.80	1.80	1.80	2.40	2.40	2.40
Land Investment	**15.30**	**15.30**	**15.30**	**17.33**	**17.33**	**17.33**
Total Other Expenses (E)	56.36	56.36	56.36	63.25	63.25	63.25
Labour and Management***** (F)						
Total Expenses (D+E+F) (G)	**152.86**	**142.59**	**142.59**	**145.00**	**145.00**	**141.33**
Summerfallow Cost (H)	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Total Rotation Expense (G+H)=(I)	**152.86**	**142.59**	**142.59**	**145.00**	**145.00**	**141.33**
RETURNS PER ACRE						
Return Over Variable Expenses (C-D)	**94.54**	**100.07**	**93.32**	**13.80**	**36.75**	**5.62**
Return Over Total Rotation Expenses (C-I)	**38.18**	**43.71**	**36.96**	**-49.45**	**-26.50**	**-57.63**
BREAK-EVEN YIELD (lbs or bus per acre)						
To Cover Variable Expenses	**603**	**575**	**575**	**25**	**22**	**26**
To Cover Total Rotation Expenses	**955**	**951**	**951**	**45**	**39**	**47**
BREAK-EVEN PRICE (per lb or bus)						
To Cover Variable Expenses	**0.08**	**0.07**	**0.07**	**2.78**	**2.59**	**2.80**
To Cover Total Rotation Expenses	**0.13**	**0.11**	**0.12**	**4.93**	**4.59**	**5.07**

*** Yield and costs are for Dryland Pinto Beans only.**

****Expenses shown are for two years (year 1 and 2) and revenue is from 2 years (year 2 and 3) of Caraway seed production. Average return per year over total expenses is $335.80 divided by 2 equals $167.90 per year. The expenses associated with the cover crop in year 1 are covered by the revenue from the cover crop.**

***** Fertilizer prices as of December 1/00. Rising natural gas prices over the course of the winter will equate into higher fertilizer prices by spring especially nitrogen fertilizer. (Producers should take this into account when using these guides.)**

****** Only registered chemicals are included.**

******* These budgets do not include an estimate for owner/operator labour and management. This value varies greatly and depends on both the farm manager's needs as well as the ability of the farm to generate income. Farm managers need to determine their own actual labour and management costs and add it to total expenses.**

				OILSEED CROPS					
Pinto Bean*	#1 Desi Chickpea	#1-8mm Kabuli C'pea	Fababean (Feed)	Early,Short Sunflower	Standard Sunflower	Yellow Mustard	Oriental Mustard	Brown Mustard	Safflower
Fallow	Re-crop	Re-crop	Re-crop	Re-crop	Re-crop	Re-crop	Re-crop	Re-crop	Fallow
2	1	1	1	1	1	1	1	1	2
DBROWN	BROWN	BROWN	BLACK	DBROWN	DBROWN	BROWN	BROWN	BROWN	BROWN
1000.00	1400.00	1100.00	1328.00	901.00	987.00	680.00	815.00	765.00	658.00
$0.22	**$0.12**	**$0.30**	**$0.10**	**$0.10**	**$0.11**	**$0.15**	**$0.12**	**$0.12**	**$0.15**
220.00	**168.00**	**330.00**	**132.80**	**90.10**	**108.57**	**102.00**	**97.80**	**91.80**	**98.70**
40.00	23.75	79.80	39.60	16.80	27.50	2.70	1.92	2.40	9.00
15.00	**1.80**	**1.80**	**1.80**	**15.00**	**15.00**	**13.50**	**13.50**	**13.50**	**6.00**
6.50	6.50	6.50	6.50	6.50	6.50	5.20	5.20	5.20	5.20
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.00**	**2.00**	**2.00**	**0.00**
62.35	19.39	23.62	37.20	23.46	23.46	14.18	14.18	14.18	15.64
0.00	**0.00**	**0.00**	**0.00**	**0.51**	**0.51**	**0.49**	**0.49**	**0.49**	**0.00**
1.58	1.90	9.80	7.20	0.18	0.13	5.40	4.32	5.40	0.60
9.50	**11.00**	**11.00**	**11.00**	**11.00**	**11.00**	**10.50**	**10.50**	**10.50**	**8.50**
10.50	9.00	9.00	9.60	9.42	9.90	6.00	6.00	6.00	7.80
3.00	**3.00**	**3.00**	**3.00**	**4.00**	**4.00**	**3.50**	**3.50**	**3.50**	**3.00**
0.00	7.65	9.69	3.22	1.75	2.12	2.55	2.55	2.41	0.00
3.80	**2.57**	**2.57**	**3.86**	**3.80**	**3.80**	**2.57**	**2.57**	**2.57**	**2.57**
5.71	3.25	5.88	4.61	3.47	3.90	2.57	2.50	2.56	2.19
157.94	**89.81**	**162.66**	**127.59**	**95.87**	**107.81**	**71.16**	**69.23**	**70.70**	**60.49**
1.20	0.90	0.90	1.60	1.20	1.20	0.90	0.90	0.90	0.90
4.51	**3.97**	**3.97**	**5.03**	**4.51**	**4.51**	**3.97**	**3.97**	**3.97**	**3.97**
1.72	1.12	1.12	2.04	1.72	1.72	1.12	1.12	1.12	1.12
17.50	**15.00**	**15.00**	**16.00**	**15.70**	**16.50**	**12.00**	**12.00**	**12.00**	**13.00**
1.20	0.90	0.90	1.60	1.20	1.20	0.90	0.90	0.90	0.90
13.13	**11.25**	**11.25**	**12.00**	**11.78**	**12.38**	**9.00**	**9.00**	**9.00**	**9.75**
1.80	1.35	1.35	2.40	1.80	1.80	1.35	1.35	1.35	1.35
15.30	**13.95**	**13.95**	**17.33**	**15.30**	**15.30**	**13.95**	**13.95**	**13.95**	**13.95**
56.36	48.44	48.44	58.00	53.21	54.61	43.19	43.19	43.19	44.94
214.29	**138.25**	**211.10**	**185.59**	**149.08**	**162.41**	**114.35**	**112.42**	**113.89**	**105.43**
51.68	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**43.08**
265.97	**138.25**	**211.10**	**185.59**	**149.08**	**162.41**	**114.35**	**112.42**	**113.89**	**148.51**
62.06	**78.19**	**167.34**	**5.21**	**-5.77**	**0.76**	**30.84**	**28.57**	**21.10**	**38.21**
-45.97	**29.75**	**118.90**	**-52.79**	**-58.98**	**-53.84**	**-12.35**	**-14.62**	**-22.09**	**-49.81**
718	**748**	**542**	**1276**	**959**	**980**	**474**	**577**	**589**	**403**
1289	**1152**	**704**	**1856**	**1491**	**1476**	**762**	**937**	**949**	**990**
0.16	**0.06**	**0.15**	**0.10**	**0.11**	**0.11**	**0.10**	**0.08**	**0.09**	**0.09**
0.27	**0.10**	**0.19**	**0.14**	**0.17**	**0.16**	**0.17**	**0.14**	**0.15**	**0.23**

Weed Control	Harvest Method	Safe Storage Moisture	Crop Quality Factors	Markets	Expected Yield Range
Several registered herbicides	Swath or desiccate & direct combine. Pick-up reels, floating cutter bar preferred.	Below 14%	Light green seed	Human food	900-1200 lb/ac
Several registered herbicides	Swath or desiccate & direct combine. Pick-up reels, floating cutter bar preferred.	Below 14%	Light green seed	Human food	1000-1400 lb/ac
Several registered herbicides	Swath or dessicate & direct combine. Pick up reels, floating cutter bar preferred.	Below 14%	Red seed, smaller than large green lentil Seed colour grading factors are different than green lentil.	Human food	1000-1300 lb/ac
Several registered herbicides	Swath or desiccate & direct combine. Pick-up reels and lifters preferred.	Below 16%	Uniform green seed free from damage.Less than 5% bleached	Human food or feed	1250-2000 lb/ac
Several registered herbicides	Swath or desiccate & direct combine. Pick-up reels and lifters preferred.	Below 16%	Large round smooth yellow seed free from damage.	Human food or feed	1250-2400 lb/ac
Several registered herbicides	Swath or desiccate & direct combine. Pick-up reels and lifters preferred.	Below 16%	Various sizes and colours	Feed	1250-2400 lb/ac
Several registered herbicides Seed treatment recommended	Pick-up reel & floating cutter bar required. Harvest losses are high. Swath when tough.	14% - 18%	Sound whole seed, avoid seed damage	Human food	900-1350 lb/ac reduced by high harvest losses
Sencor,Poast & Select herbicides are registered. Select clean fields	Direct combine or swath & combine	Below 14%	Sound whole seed, avoid seed damage	Human food	1050-1450 lb/ac
Sencor,Poast & Select herbicides are registered. Select clean fields Seed treatment recommended	Direct combine or swath &combine	Below 14%	Sound whole seed, avoid seed damage, light coloured seed coat & green cotyledons.	Human food	900-1300 lb/ac
Numerous herbicides registered	Swath & combine	Below 16%	Avoid splitting & cracking	High protein feed	1000-1600 lb/ac
Trifluralin, Edge and Poast are registered herbicides.	Direct combine preferred	Below 9.5%	Bright white for birdseed, well filled	Birdseed or edible oil	600-750 lb/ac
Trifluralin, Edge and Select are registered herbicides.	Direct combine with sunflower attachment	Below 10%	Premiums for high oil content	Edible oil & confection	700-1000 lb/ac
Trifluralin, Edge and Select are registered herbicides.	Swath & combine or direct combine with standard equipment	Below 10%	Premiums for high oil content	Edible oil & birdseed	700-1000 lb/ac
Several registered herbicides	Direct combine or swath & combine	Below 9.5%	Bright yellow seed	Condiment	550-700 lb/ac
Several registered herbicides	Swath and combine	Below 9.5%	Dark reddish brown seed	Condiment	620-900 lb/ac
Several registered herbicides	Swath & combine	Below 9.5%	Bright golden seed	Condiment	620-900 lb/ac
No registered herbicides. Select clean fields.	Resists shattering, direct combine or swath & combine	Below 12%	Golden coloured seed	Spice ingredient, pharmaceutical, health food	550-900 lb/ac
Several herbicides registered for grassy weed control	Swath when 75% mature	Below 16%	Tan coloured seed, do not mix old (reddish-brown dehulled) and new(greenish dehulled) crop	Whole seed	550-700 lb/ac
Several herbicides registered	Swath & combine or direct combine. Shatter resistant.	Below 13%	Avoid dehulling seed	Birdseed	700-1050 lb/ac
No registered herbicides. Select clean fields	Ripens unevenly, shatters most of the seed, swath.	Below 10%	Avoid volunteer cereal crops which are difficult to separate	Oil extracted for neutraceutical	90-200 lb/ac
Poast and Edge are registered herbicides.	Swath & combine	Below 10%	Clean seed, oil content	Flavouring	270-1000 lb/ac
Poast, linuron and Edge are registered.	Swath when begins to shatter	Below 10%	Brown with dark stripes. Avoid green seed.	Flavouring	450-700 lb/ac
Poast, linuron and Edge are registered.	Direct combine or swath then immediately combine.	Below 10%	Fully mature brown seeds, splits below 5%	Flavourings & perfumes	550-800 lb/ac

SPICE AND OTHER CROPS						
Canary Seed	Buckwheat	Caraway**	Dill	Coriander	Fenugreek	Borage
Re-crop	Fallow	Re-crop	Fallow	Re-crop	Fallow	Fallow
1	2	3	2	1	2	2
DBROWN	DBROWN	DBROWN	BLACK	DBROWN	BROWN	DBROWN
945.00	609.00	588.00	800.00	758.00	800.00	153.00
$0.11	**$0.11**	**$0.51**	**$0.50**	**$0.17**	**$0.20**	**$1.30**
103.95	**66.99**	**599.76****	**400.00**	**128.86**	**160.00**	**198.90**
4.90	13.00	8.30	9.60	6.60	14.40	52.50
15.00	**7.50**	**30.00**	**9.00**	**15.00**	**1.80**	**7.50**
6.50	6.50	6.50	7.80	6.50	5.20	6.50
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
12.77	14.37	49.92	14.35	29.83	4.50	4.50
1.15	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
0.88	1.25	0.25	0.00	0.50	1.35	0.00
10.00	**9.50**	**20.00**	**8.50**	**10.00**	**8.50**	**8.50**
7.25	7.25	15.50	8.00	8.25	6.50	7.75
5.25	**3.00**	**6.00**	**3.00**	**3.00**	**3.00**	**3.00**
2.45	0.00	6.65	0.00	7.57	0.00	0.00
3.80	**3.80**	**7.60**	**3.86**	**3.80**	**2.57**	**3.80**
2.62	2.48	7.54	2.40	3.41	1.79	3.53
72.57	**68.66**	**158.25**	**66.52**	**94.46**	**49.61**	**97.58**
1.20	1.20	2.40	1.60	1.20	0.90	1.20
4.51	**4.51**	**9.02**	**5.03**	**4.51**	**3.97**	**4.51**
1.72	1.72	3.44	2.04	1.72	1.12	1.72
14.50	**14.50**	**31.00**	**16.00**	**16.50**	**13.00**	**15.50**
1.20	1.20	2.40	1.60	1.20	0.90	1.20
10.88	**10.88**	**23.25**	**12.00**	**12.38**	**9.75**	**11.63**
1.80	1.80	3.60	2.40	1.80	1.35	1.80
15.30	**15.30**	**30.60**	**17.33**	**15.30**	**13.95**	**15.30**
51.11	51.11	105.71	58.00	54.61	44.94	52.86
123.67	**119.76**	**263.96**	**124.52**	**149.07**	**94.55**	**150.43**
0.00	**51.68**	**0.00**	**58.32**	**0.00**	**42.08**	**51.68**
123.67	**171.44**	**263.96**	**182.84**	**149.07**	**137.63**	**202.11**
31.38	**-1.67**	**441.51**	**333.48**	**34.40**	**110.39**	**101.32**
-19.72	**-104.45**	**335.80****	**217.16**	**-20.21**	**22.37**	**-3.21**
660	**624**	**155**	**133**	**556**	**248**	**75**
1124	**1559**	**259**	**366**	**877**	**688**	**155**
0.08	**0.11**	**0.13**	**0.08**	**0.12**	**0.06**	**0.64**
0.13	**0.28**	**0.22**	**0.23**	**0.29**	**0.17**	**1.32**

SPICE AND OTHER CROPS						
Canary Seed	Buckwheat	Caraway**	Dill	Coriander	Fenugreek	Borage
Re-crop	Fallow	Re-crop	Fallow	Re-crop	Fallow	Fallow
1	2	3	2	1	2	2
DBROWN	DBROWN	DBROWN	BLACK	DBROWN	BROWN	DBROWN
945.00	609.00	588.00	800.00	758.00	800.00	153.00
$0.11	**$0.11**	**$0.51**	**$0.50**	**$0.17**	**$0.20**	**$1.30**
103.95	**66.99**	**599.76****	**400.00**	**128.86**	**160.00**	**198.90**
4.90	13.00	8.30	9.60	6.60	14.40	52.50
15.00	**7.50**	**30.00**	**9.00**	**15.00**	**1.80**	**7.50**
6.50	6.50	6.50	7.80	6.50	5.20	6.50
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
12.77	14.37	49.92	14.35	29.83	4.50	4.50
1.15	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
0.88	1.25	0.25	0.00	0.50	1.35	0.00
10.00	**9.50**	**20.00**	**8.50**	**10.00**	**8.50**	**8.50**
7.25	7.25	15.50	8.00	8.25	6.50	7.75
5.25	**3.00**	**6.00**	**3.00**	**3.00**	**3.00**	**3.00**
2.45	0.00	6.65	0.00	7.57	0.00	0.00
3.80	**3.80**	**7.60**	**3.86**	**3.80**	**2.57**	**3.80**
2.62	2.48	7.54	2.40	3.41	1.79	3.53
72.57	**68.66**	**158.25**	**66.52**	**94.46**	**49.61**	**97.58**
1.20	1.20	2.40	1.60	1.20	0.90	1.20
4.51	**4.51**	**9.02**	**5.03**	**4.51**	**3.97**	**4.51**
1.72	1.72	3.44	2.04	1.72	1.12	1.72
14.50	**14.50**	**31.00**	**16.00**	**16.50**	**13.00**	**15.50**
1.20	1.20	2.40	1.60	1.20	0.90	1.20
10.88	**10.88**	**23.25**	**12.00**	**12.38**	**9.75**	**11.63**
1.80	1.80	3.60	2.40	1.80	1.35	1.80
15.30	**15.30**	**30.60**	**17.33**	**15.30**	**13.95**	**15.30**
51.11	51.11	105.71	58.00	54.61	44.94	52.86
123.67	**119.76**	**263.96**	**124.52**	**149.07**	**94.55**	**150.43**
0.00	**51.68**	**0.00**	**58.32**	**0.00**	**43.08**	**51.68**
123.67	**171.44**	**263.96**	**182.84**	**149.07**	**137.63**	**202.11**
31.38	**-1.67**	**441.51**	**333.48**	**34.40**	**110.39**	**101.32**
-19.72	**-104.45**	**335.80****	**217.16**	**-20.21**	**22.37**	**-3.21**
660	**624**	**155**	**133**	**556**	**248**	**75**
1124	**1559**	**259**	**366**	**877**	**688**	**155**
0.08	**0.11**	**0.13**	**0.08**	**0.12**	**0.06**	**0.64**
0.13	**0.28**	**0.22**	**0.23**	**0.20**	**0.17**	**1.32**

ALTERNATIVE CROPS INFORMATION HIGHLIGHTS

Crop	Description	LB/BU	Adaptation	Seed Rate LB/AC	Seeds per LB	Crop Height inches	Days to Maturity
Large Green Lentil	Annual pulse	60	Indeterminate crop, requires some stress to mature seed. Seed early	90 lb/ac	5,000-7,000	16-20	53 days to flower
Small Green Lentil	Annual pulse	60	Requires some stress to mature seed. More determinate than Large Green. Seed early	45 lb/ac	11000-13,500	12-16	49 days to flower
Red Lentil	Annual pulse	60	Requires some stress to mature seed. More determinate than Large Green. Seed early	45 lb/ac	11000 -13500	12-16	49 days to flower
Green Pea	Annual pulse	60	Prefers moist, cool conditions. Seed early	150-200 lb/ac	1,600-2,300	20-30	92 - 98
Yellow Pea	Annual pulse	60	Prefers moist, cool conditions. Seed early	150-200 lb/ac	1,300-2,300	20-43	93 - 104
Feed Pea	Annual pulse	60	Prefers moist, cool conditions. Seed early	120-180 lb/ac	1,300-2,300	20-43	93 - 104
Pinto Bean	Annual pulse	60	Heat and moisture loving. Seed in late May. No frost tolerance	80-100 lb/ac	1,100-1,600	12-20	100 - 112
Desi Chickpea	Annual pulse	60	Indeterminate crop. Brown & Dark Brown Soils	80-90 lb/ac	1,350-2,300	12-20	110 - 120
Kabuli Chickpea	Annual pulse	60	Indeterminate crop. Brown Soils. Seed after soil reaches 10° C at seeding depth	120-140 lb/ac	1,100-2,000	14-20	110 - 125
Fababean	Annual pulse	60	High moisture areas or irrigation	120-180 lb/ac	800 - 1,350	40-60	125 - 135
Safflower	Annual oilseed or birdseed	40	High heat requirements. Brown & Dark Brown soil zones	22-30 lb/ac	4,500-5,500	20-30	115 - 125
Standard Sunflower	Annual oilseed	30	High heat requirements. South-east Saskatchewan	5 lb/ac	4,500-6,800	60	110 - 125
Early Short Statured Sunflower	Annual oilseed	30	Moderate heat requirements. Brown, Dark Brown & Thin Black soils	7-10 lb/ac	11,000-13,500	24-35	99 - 103
Yellow Mustard	Annual oilseed	50	Better seed quality in drier areas	9-12 lb/ac	100,000	30-40	93
Brown Mustard	Annual oilseed	50	More heat and drought tolerant than canola	7-10 lb/ac	200,000	40-48	94
Oriental Mustard	Annual oilseed	50	More heat and drought tolerant than canola	5-9 lb/ac	200,000	40-48	91 - 93
Fenugreek	Annual legume	60	Indeterminate crop. Brown & Dark Brown soil zones. Late maturing	22-30 lb/ac	23,000 - 27,000	12-24	115 - 130
Buck wheat	Annual grain	48	Widely adapted but sensitive to frost anytime and heat and drought during seed set	35-55 lb/ac	13,000 - 16,000	40-60	80 - 90
Canary Seed	Annual birdseed	50	Moderate moisture requirements, shallow rooted	22-35 lb/ac	65,000	40-60	95 - 100
Borage	Annual oilseed	34	Moisture loving, seed late to increase GLA content of the oil	9-15 lb/ac	13,500 (est.)	24-40	85
Dill	Annual spice	27	Yields best in cool conditions, moderate moisture	5-9 lb/ac	90,000 (est.)	40	105 - 115
Caraway	Triennial spice	35	Widely adapted, yields best under moderate moisture	10 lb/ac	90,000 (est.)	12-28	Triennial. Matures in early Aug.
Coriander	Annual spice	22	Heat loving, late maturing	25 lb/ac	50,000	24-40	95-110

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ALTERNATIVE CROP PRODUCTION COSTS ($/ACRE) MY FARM

Use this worksheet to adjust the crop budgets for your farm costs.

Crops					
REVENUE PER ACRE					
Estimated Yield (bu/ac,lb/ac) (A)					
Est. On Farm Market Price/bus,lb (B)					
Estimated Gross Revenue/ac (AxB) (C)					
EXPENSES PER ACRE					
Variable Expenses/acre					
Seed					
Fertilizer - Nitrogen					
- Phosphorus					
- Sulfur & Other					
Chemical - Herbicides					
- Insecticides					
- Seed Treatment/Fungicides					
Machinery Operating - Fuel					
- Repair					
Custom Work & Hired Labour					
Crop Insurance Premium					
Utilities & Miscellaneous					
Interest on Variable Expenses					
Total Variable Expenses (D)					
Other Expenses/acre					
Building Repair					
Property Taxes					
Insurance & Licenses					
Machinery Depreciation					
Building Depreciation					
Machinery Investment					
Building Investment					
Land Investment					
Total Other Expenses (E)					
Labour and Management (F)*					
Total Expenses (D+E+F) (G)					
Summerfallow Cost (H)					
Total Rotation Expense (G+H)=(I)					
RETURNS PER ACRE					
Return Over Variable Expenses (C-D)					
Return Over Total Rotation Expenses (C-I)					
BREAK-EVEN YIELD (lbs or bus per acre)					
To Cover Variable Expenses					
To Cover Total Rotation Expenses					
BREAK-EVEN PRICE (per lb or bus)					
To Cover Variable Expenses					
To Cover Total Rotation Expenses					

*These budgets do not include an estimate for owner/operator labour and management. Farm managers need to determine their own actual labour and management costs and add it to total expenses.

CLIMATIC SOIL ZONES OF SOUTHERN SASKATCHEWAN

LEGEND

- Brown /Dry brown
- Dark brown
- Moist dark brown
- Black
- Moist black
- Grey